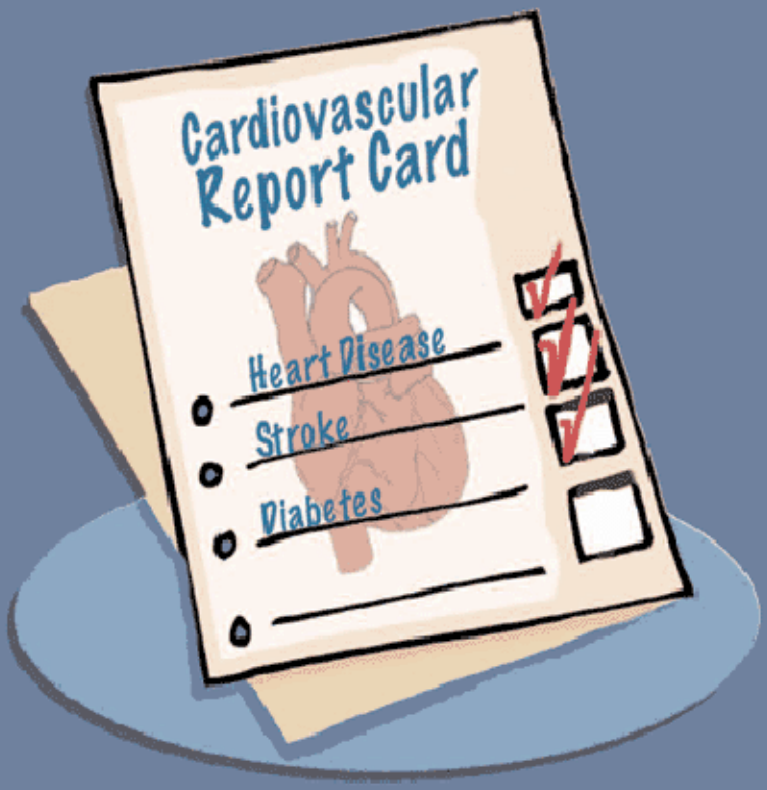

Cardiovascular Report Card for Mississippi 2005 – 2006

Grading of changes in prevalence and mortality for the three main cardiovascular diseases

Introduction

Cardiovascular diseases (CVD), particularly **coronary heart disease** and **stroke**, are the leading causes of death across the state. Many of the deaths due to CVD are premature – one in five CVD deaths occurs before age 65. Cardiovascular diseases are also leading causes of chronic ill-health and disability.

Premature CVD is an important general complication of **diabetes**. The main cause of death in persons with diabetes is heart disease, and stroke is also more common in persons with diabetes. Diabetes is a major cause of morbidity, disability, and premature mortality; and like coronary heart disease and stroke, a major source of health care costs in the state.

Assignment of Grades
The following system is a state-developed grading scale

A	25% or greater improvement (decrease in rates)
B	10% - 24% improvement (decrease in rates)
C	<10% improvement (decrease in rates)
D	<10% worsening (increase in rates)
E	10% - 24% worsening (increase in rates)
F	25% or greater worsening (increase in rates)

Contents

Coronary Heart Disease

Prevalence

	1998 Rate*	2002 Rate*	1998-2002 Change	**Grade**
White Males	9.7	8.3	15% ↓	B
African American Males	5.6	6.3	12% ↑	E
White Females	5.8	5.1	11% ↓	B
African American Females	5.4	6.1	14% ↑	E
Total	6.9	6.5	6% ↓	C

*percent, age adjusted to the U.S. 2000 population.

Mortality

	1980/81 Average Rate*	2000/01 Average Rate*	1980/81 2000/01 Change	**Grade**
White Males	392.6	260.3	34% ↓	A
African American Males	313.0	260.2	17% ↓	B
White Females	200.1	154.0	23% ↓	B
African American Females	190.8	185.2	3% ↑	C
Total	267.1	203.6	24% ↓	B

*per 100,000, age adjusted to the U.S. 2000 population.

In whites, both prevalence and mortality have declined. This may be attributed to not only better treatments leading to improvements in survival but also a reduction in incidence (fewer new cases of coronary heart disease) due to improvements in health behaviors. In African-Americans, however, mortality has decreased but prevalence has increased. Again, it is likely that better treatments have resulted in an increase in the number of coronary survivors in the population, but incidence has probably not declined.

Stroke

Prevalence

	1998 Rate*	2002 Rate*	1998-2002 Change	**Grade**
White Males	1.6	3.4	113%↑	F
African American Males	2.3	3.7	60% ↑	F
White Females	2.4	2.8	14% ↑	E
African American Females	1.4	2.1	57% ↑	F
Total	2.0	3.1	55% ↑	F

*percent, age adjusted to the U.S. 2000 population.

Mortality

	1980/81 Average Rate*	2000/01 Average Rate*	1980/81 Average Change	**Grade**
White Males	1.6_	3.4	113%↑	F
African American Males	162.7	93.6	43% ↓	A
White Females	2.4_	2.8	14% ↑	E
African American Females	128.5	82.7	36% ↓	A
Total	14.7	72.6	37% ↓	A

*per 100,000 age adjusted to the U.S. 2000 population.

Stroke mortality has declined in all groups, probably a consequence of better treatments leading to improvements in survival. This has led to an increase in the number of stroke survivors in the population, which probably explains most of the increase in stroke prevalence, though an increase in stroke incidence (more new cases of stroke) could also be occurring.

Diabetes

Prevalence

	1998 Rate*	2002 Rate*	1998-2002 Change	**Grade**
White Males	5.0	8.8	79% ↑	F
African American Males	8.0	9.6	20% ↑	E
White Females	5.4	8.7	63% ↑	F
African American Females	16.2	15.3	5% ↓	C
Total	8.0	9.82	3% ↑	E

*per 100,000 age adjusted to the U.S. 2000 population.

Mortality

	1980/81 Average Rate*	2000/01 Average Rate*	1980/81 Average Change	**Grade**
White Males	15.5	19.4	25% ↑	F
African American Males	24.1	37.6	56% ↑	F
White Females	2.4_	2.8	14% ↑	E
African American Females	12.4	17.7	43% ↑	F
Total	9.4	24.0	24% ↑	E

*per 100,000, age adjusted to the U.S. 2000 population

With one exception (African-American women), both prevalence and mortality have increased in all groups. This is almost certainly due largely to the steady increase in diabetes incidence (more new cases of type 2 diabetes) over the years, which, in turn, is due to the large increase in the number of adults with obesity. The increase in mortality rates could also partly reflect more accurate recording of diabetes as a cause of death.

Prevention Strategies for Heart Disease, Stroke, and Diabetes

- ❑ Maintain a healthy weight as assessed by a health care provider
- ❑ Exercise for at least 30 minutes on most days of the week
- ❑ Choose a diet that is low in saturated fat and cholesterol and moderate in total fat
- ❑ Stop smoking
- ❑ Manage stress levels
- ❑ Have blood pressure, cholesterol, and glucose levels checked as recommended by a health care provider
- ❑ Maintain normal blood pressure, cholesterol, and glucose levels
- ❑ Assess family history of chronic disease
- ❑ Know the signs and symptoms of heart attack, stroke, and diabetes
- ❑ Limit alcohol consumption
- ❑ Limit salt intake

Signs and Symptoms of Heart Attack in Men

- ❑ Chest discomfort
- ❑ Discomfort or pain in other areas of the body (e.g., one or both arms, the back, neck, jaw, or stomach)
- ❑ Shortness of breath
- ❑ Cold sweat
- ❑ Nausea
- ❑ Lightheadedness

Signs and Symptoms of Heart Attack in Women

- ❑ Chest pain-back pain or deep aching and throbbing in the left or right bicep or forearm
- ❑ Shortness of breath
- ❑ Profuse sweating
- ❑ Dizziness
- ❑ Swelling, particularly of the ankles and/or lower legs
- ❑ Fluttering (or rapid) heartbeats
- ❑ Nausea
- ❑ Heavy fullness or pressure-like chest pain between breasts and radiating to left arm or shoulder

Signs and Symptoms of Stroke

- ❑ Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
- ❑ Sudden confusion, trouble speaking or understanding
- ❑ Sudden trouble seeing in one or both eyes
- ❑ Sudden trouble walking, dizziness, loss of balance or coordination
- ❑ Sudden severe headache with no known cause

Signs and Symptoms of Diabetes

- ❑ Frequent urination
- ❑ Excessive thirst
- ❑ Extreme hunger
- ❑ Unusual weight loss
- ❑ Extreme fatigue
- ❑ Irritability
- ❑ Blurry vision

Know Your Numbers

Screening	Regularity	Goal
Blood pressure	1-3 years	less than (<) 140/90
Cholesterol	1-3 years	less than (<) 200
Glucose	every 3-6 months	less than (<) 126 (fasting)
If diabetic, Hemoglobin A1c test	every 3-6 months	less than or equal to (≤) 7
Body Mass Index (BMI)	as necessary	less than (<) 25

Comments

❑ Cardiovascular diseases, including diabetes, are responsible for more than 12,000 deaths each year in Mississippi. Yet much of the premature death, illness, and disability due to CVD is preventable.

❑ Four out of five Mississippi adults over the age of 45 have at least one of the six major cardiovascular risk factors. To reduce the prevalence of CVD risk factors in the population more Mississippians need to stop smoking, become more active, lose weight, control their blood pressure, eat a healthier diet, and lower their blood cholesterol level. This prevention must start at an early age, since the processes that lead to CVD in middle or old age begin in childhood and adolescence.

❑ African-American women who have the highest prevalence rates for five of the six major CVD risk factors need to be targeted urgently for intensive health education and promotion regarding CVD prevention. It is quite possible in the near future that CVD mortality rates for African-American women will exceed those for white men; and the trend lines for African-American women and white men will cross – despite the fact that the prevalence of cigarette smoking (the single most important risk factor for CVD) is much lower in African-American women.

❑ CVD will not be prevented without a combination of personal behavior changes and statewide actions to create and maintain heart-healthy environments, policies, and norms.

Additional Resources

Mississippi Department of Health
www.HealthyMS.com
1-866-458-4948

Office of Preventive Health
570 East Woodrow Wilson
Jackson, MS 39215-1700
(601) 576-7781

Data Sources and Methods

Prevalence
The Behavioral Risk Factor Surveillance System (BRFSS) is a statewide random-digit-dialed telephone survey on health and health care behaviors that has been conducted by Mississippi since 1990. It utilizes data from a representative sample of the Mississippi civilian non-institutionalized adult population (18 years of age and older). Data on CVD morbidity have been collected through the use of additional modules of questions, beginning in 1998. From the CVD module questions, an estimate of the prevalence (% of population) of coronary heart disease (heart attack and angina) and stroke can be determined.

Mortality
CVD mortality numbers and rates are based on death certificate data provided by the Office of Health Informatics, Mississippi State Department of Health (MDH). CVD mortality numbers and rates through 2001 are also available from the National Center for Health Statistics (NCHS) via CDC's WONDER system (http://wonder.cdc.gov). The following ICD codes were used:

- ❑ Coronary Heart Disease: ICD9 codes: 410- 414; ICD10 codes: I20 – I25.
- ❑ Stroke: ICD9 codes: 430 – 438; ICD10 codes: I60 – I69.
- ❑ Diabetes: ICD9 codes: 250; ICD10 codes: E10 – E14.

Rates
Crude mortality rates are calculated using number of deaths as the numerator and the appropriate mid-year population estimate for the state from the U.S. Census Bureau (www.census.gov) as the denominator. Crude rates are age-adjusted by the direct method using the 2000 U.S. population as the standard.

Definitions
Age-adjusted death rate: a crude death rate that has been adjusted statistically (standardized to a reference population) to allow comparison of rates from different time periods.
Incidence: the number (expressed as a rate) of new cases of a disease in a population.
Prevalence: the number (expressed as proportion or percentage) of existing cases of a disease in a population at a specific point in time